

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Confirm. No.: 7522

SUNDBERG et al.

Atty. Ref.: 4147-184

Serial No. 10/593,306

TC/A.U.: 4173

Filed: September 18, 2006

Examiner: Wang-Hurst, K.W.

For: METHOD AND ARRANGEMENT FOR IMPROVED
INTER-RAT HANDOVER

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May 10, 2010

MAIL STOP AF

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a notice of appeal. The review is requested for the reason(s) stated on the attached sheet(s).

A Request for Reconsideration responsive to the December 8, 2009 final office action was filed on April 2, 2010. A negative advisory action was mailed April 13, 2010.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

REASONS FOR REVIEW

A. SELECTED COMMENTS CONCERNING THE DISCLOSURE

The claimed technology pertains to telecommunications, and particularly to handover or change of cell for a wireless user terminal. Such a handover can be, for example, a handover between a first radio access technology (RAT) (e.g., a GSM cell) and second radio access technology (RAT) utilizing UTRAN (a WCDMA cell).

In conjunction with applicants handover, a first and a second parameter relating to quality and signal strength (e.g. Ec/No and RSCP) are measured and reported simultaneously for each UTRAN cell in the network. The two parameters (e.g. first and second) are measured and reported to a base station controller. Handover to a new cell is initiated and completed based on both of the reported parameters. Thus, Applicants' handover is not performed or decided upon until both parameters have been reported and taken into consideration. In order to further optimize the reporting format, the values of the two measured parameters are included in a same field in a standardized Measurement Report message and are reported simultaneously according to one of a respective plurality of value ranges.

Applicants' user terminal is in an active mode. The user terminal performs measurements, reports those measurements to the base station controller, and the base station controller performs evaluation of the reported parameters and decides about handover based on the reported parameters.

B. PATENTABILITY OF THE CLAIMS

As explained below, the applied references, alone and in combination, fail to teach the limitations of Applicants' claims.

US2004/0082328 to Japenga discloses a technique for inter-RAT cell reselection in a wireless communication system. A first parameter associated with a wireless cell is compared to a first criterion. If the first parameter satisfies the criterion, the cell is reselected for wireless communication. Upon reselection of the cell, a second parameter associated with the cell is compared to a second criterion. If the second parameter does

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not satisfy the second criterion, the first criterion is modified. Subsequently, the cell is deselected if the second parameter does not satisfy the second criteria.

Japenga discuss the problems of using only one of RSCP and Ec/No as criteria when going from WCDMA to GSM. However, Japenga only considers idle mode and hence do not involve measurement reports. This means that in Japenga, all measurements and evaluations of parameters and decisions to reselect a cell are performed in the user terminal. Applicants' claims, by contrast, focus on active mode and alleviate the previously un-appreciated problems of separate criteria. Further, Japenga's technology sets up a situation where a user may bounce between two cells, an undesirable situation which Applicants' technology avoids.

The technology of Japenga measures one parameter, reselects a cell, then measures a second parameter and possibly deselects the cell again. No mention is made by Japenga of jointly utilizing both parameters before making a handover. In addition, the Japenga user terminal adjusts the criteria for the first parameter if the second parameter evaluation fails, thus changing the conditions for a future reselection of the same cell. Applicants need not require any comparable adjustments of criteria. Instead, Applicants utilize two parameters before reselecting a cell or performing handover, so that there is no need to adjust any criteria.

In addition, the Japenga user terminal algorithm does not allow the operator to tailor and optimize the IRAT handover criteria as do Applicants. Japenga is constrained in this respect since Japenga's technology essentially resides in a network-controlled node. The Japenga cell reselection is already made (based on only CPIC Ec/No as in Fig. 4) before the two measurement criteria are used. In contrast, Applicant allows for usage of both measurement criteria (CPICH Ec/No and CPIC RSCP) before a IRAT HO is made, so that Applicants facilitate a more optimized handover decision from the beginning.

Moreover, the office action interprets the term "cell selection" in an unconventional manner. The office action opines that Japenga discloses a situation

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where both parameters need to be evaluated before an actual handover. The office action infers that camping on a cell and handover to a cell are the same thing, which simply is not the case. The office action further assumes that selecting a cell is something passive, and does not actually include utilizing that cell until camping/handover occurs. However, handover is the actual process of changing from one cell to another, while camping is merely the "process" of staying on a cell until further notice. In addition, selecting a cell actually includes utilizing that cell, not merely putting it in a list (as the Examiner seems to think).

Applicants also facilitate the possibility to record statistics in the network node regarding, e.g., what criteria was fulfilled, and what was not, during the user equipment unit (UE) operation in a multi-RAT network. In so doing, Applicants both optimize the handover performance, and general network performance.

Thus, Japenga requires evaluating a first parameter, reselecting a cell, and subsequently evaluating a second parameter before making a final decision about if to stay on the reselected cell or not. Applicants, by contrast, disclose measuring two parameters, jointly evaluating those two parameters, and finally initiating handover based on that joint evaluation. Consequently, no change of cell is initiated before both parameters have been taken into account.

Chen discloses a method of communicating between a network and the mobile device by eliminating repetitive contents within one communication message, e.g., a measurement request message, in a wireless communication system. Basically, by including or not including channel ID and/or channel type values in their designated fields in the measurement request, communicated parameters are applied to only selected channels, only selected channels of a predetermined type, or to all channels. Thus Chen attempts to reduce duplicate reported settings for the various channels, for in Chen if two or more channels are to be set according to the same parameters, the parameters only need to be transmitted once. Consequently, identical event parameters for multiple channels or channel types are only communicated once in one joint measurement request.

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In contrast to Chen, Applicants deal with communication going the opposite direction, e.g. from the user terminal to the network (specifically, Applicants' communication enclosed in the Measurement Report). Consequently, Chen and Applicants address opposite scenarios and deal with two different problems. Chen deals with reducing excessive signaling; Applicants deal with reducing unnecessary cell reselection and improved cell reselection. Consequently, Chen does not discuss or hint at the possibility of reporting two parameters at the same time in a same field in a Measurement Report.

US 2002/0077140 to Monogioudis concerns power control and how to avoid transmitting on unnecessary high power levels at the BTS during soft handoff/handover. This is enabled by a common control point receiving individual user channel transmit powers from each of a number of base stations. In addition, the common control point receives the identity for the base station involved in the soft handover that has the strongest received signal at the mobile terminal, and a value representing how much stronger the received SNR was in comparison to the SNR target maintained by the mobile terminal. The common control point then decides on a downlink reference user channel transmit power for each of the base stations.

Based on the above discussion, neither Japenga, Chen, nor Monogioudis, nor a combination of the three, undermine the novelty or inventiveness of Applicants' independent claims.

Respectfully submitted,

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